

U.S.S.N. 09/995,031

REMARKS

Thorough examination and careful review of the application by the Examiner is noted and appreciated.

Claims 1-16 are pending in the application. Claims 1-16 stand rejected.

Dependent claims 1 and 10 have been amended to more narrowly recite the invention contained therein. Newly amended claims 1 and 10 now recite:

"a gate formed of a metal selected from the group consisting of Re and Rh on top of the gate dielectric layer."

The Applicants respectfully submit that such gate materials are not taught or disclosed by either Maria et al or Inumiya et al.

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Claim Rejections Under 35 USC §102

Claims 1-4 and 6-15 are rejected under 35 USC §102(e) as being anticipated by Maria et al.

Dependent claims 1 and 10 have been amended to more narrowly recite a gate formed of a metal that is Re or Rh. The Applicants respectfully submit that such gate materials are not taught or disclosed by Maria et al. Instead, Maria et al discloses a gate electrode materials at page 4, paragraph 0036 as:

"Alternatively, the gate electrodes 22a, 22b may comprise identical materials such as TaN, Pt, Ru, RuO, Ir, IrO₂, and/or Ta_{1-x}N_y."

The Applicants respectfully submit that the newly amended independent claims 1 and 10 therefore are not anticipated by Maria et al. A reconsideration for allowance of these claims is respectfully requested of the Examiner.

Claims 1, 5, 10 and 16 are rejected under 35 USC §102(e) as being anticipated by Inumiya et al '997.

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Inumiya et al discloses at col. 10, lines 65+:

"Further, a gate electrode 20 consisting of a conductive film (such as a TiN film, a Ru film, a W film, a Cu film or a laminate including any of these films such as W/TiN) and having its bottom surrounded by the gate insulating film ..."

Inumiya et al therefore does not teach or disclose the gate metal of Re and Rh as now recited in the newly amended independent claims 1 and 10.

The rejection of claims 1, 5, 10 and 16 under 35 USC §102(e) based on Inumiya et al is respectfully traversed. A reconsideration for allowance of these claims is respectfully requested of the Examiner.

The Applicants further respectfully request the entering of the claim amendments to independent claims 1 and 10. Under 37 CFR § 1.116(a), "amendments presenting rejected claims in better form for consideration on appeal may be admitted".


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Based on the foregoing, the Applicants respectfully submit that all of the pending claims, i.e. claims 1-16, are now in condition for allowance. Such favorable action by the Examiner at an early date is respectfully solicited.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version With Markings To Show Changes Made".

In the event that the present invention is not in a condition for allowance for any other reasons, the Examiner is respectfully invited to call the Applicants' representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,



Randy W. Tung
Reg. No. 31,311
Telephone: (248) 540-4040

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In The Claims

Claim 1 has been amended as follows:

1. (Twice Amended) A metal oxide semiconductor (MOS) device comprising:

a semi-conducting substrate having source and drain regions;

a gate dielectric layer of less than 100 Å thickness on said semi-conducting substrate; and

a gate formed of a metal selected from the group consisting of Re[,] and Rh[, Ir and Ru] on top of said gate dielectric layer.

Claim 10 has been amended as follows:

10. (Twice Amended) A field effect transistor (FET) comprising:

a semi-conducting substrate having at least one source and one drain region;

a gate dielectric layer of less than 100 Å thickness on the semi-conducting substrate; and

a gate formed of a metal selected from the group consisting of Re[,] and Rh[, Ir and Ru] on top of the gate dielectric layer.